

Claims

5 1. An adhesive tape for attaching plural objects to one another, said tape comprising a stretchable first backing layer having first and second major surfaces and first and second ends, an adhesive surface over at least a portion of said first major surface of said first backing layer for bonding to a surface of an object, and a separable connector surface covering at least a portion of said second major surface of said first backing layer, wherein said first backing layer and said adhesive surface are stretchable together to effect progressive debonding of the adhesive surface from an object, after the adhesive surface is bonded to that object, by the application of a force to the first end of the first backing layer in a direction of extension of the first backing layer between its first and second ends and said separable connector surface possesses the ability to be connected, disconnected and reconnected to a cooperating connection surface without destruction of the separable connection surface and the adhesive tape.

20 2. The adhesive tape of claim 1, further comprising a second adhesive surface over at least a portion of the second major surface of said first backing layer.

25 3. The adhesive tape of claim 2, wherein said second adhesive surface of the second major surface of said first backing layer comprises low-tack adhesive, and said separable connector surface comprises a surface of the low-tack adhesive.

30 4. The adhesive tape of claim 2, wherein the second adhesive surface of the second major surface of said first backing layer is bonded to a separable connector layer, and said separable connector surface is provided as a surface of said separable connector layer.

5. The adhesive tape of claim 4, wherein said separable connector layer and surface comprise a strip of magnetic material.

6. The adhesive tape of claim 4, wherein said separable connector layer and surface comprise a layer of an interlocking connector material.

5 7. The adhesive tape of claim 4, wherein said separable connector layer and surface comprise a layer of an intermeshing material.

8. The adhesive tape of claim 4, wherein said separable connector layer and surface comprise a layer of a contact responsive material.

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9. The adhesive tape of claim 4, further comprising a stretchable second backing layer having first and second major surfaces and first and second ends, an adhesive surface over at least a portion of said first major surface of said second backing layer for bonding to a surface of another object, and a cooperating separable connector surface covering at least a portion of said second major surface of said second backing layer, wherein said second backing layer and its adhesive surface are stretchable together to effect progressive debonding of the adhesive surface from the other object, after its adhesive surface is bonded to that object, by the application of a force to the first end of the second backing layer in a direction of extension of the second backing layer between its first and second ends and said cooperating separable connector surface possesses the ability to be connected, disconnected and reconnected to said connection surface of said first backing layer without destruction of the separable connection surface, the cooperating connection surface and the adhesive tape.

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10. The adhesive tape of claim 9, further comprising a second adhesive surface over at least a portion of the second major surface of said second backing layer.

11. The adhesive tape of claim 10, wherein said second adhesive surface of the second major surface of the second backing layer comprises a low-tack adhesive, and said cooperating separable connector surface comprises a surface of the low-

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tack adhesive that can reusably adhere to said separable connector surface of said first backing layer.

12. The adhesive tape of claim 10, wherein the second adhesive surface of the
5 second major surface of the second backing layer is bonded to a cooperating separable connector layer, and said cooperating separable connector surface is provided as a surface of said cooperating separable connector layer.

13. The adhesive tape of claim 12, wherein said separable connector layer and
10 surface comprise a strip of magnetic material, and said cooperating separable connector layer and surface comprise a strip of magnetic material.

14. The adhesive tape of claim 12, wherein said separable connector layer and
15 surface comprise a strip of magnetic material, and said cooperating separable connector layer and surface comprise a layer of magnetically attractive material.

15. The adhesive tape of claim 12, wherein said separable connector layer and
surface comprise a layer of an interlocking connector material, and said cooperating
separable connector layer and surface comprise interlocking connector material.

16. The adhesive tape of claim 15, wherein said interlocking connector material
20 comprises hook and loop connector means.

17. The adhesive tape of claim 12, wherein said separable connector layer and
25 surface comprise a layer of an intermeshing material, and said cooperating separable connector layer and surface comprise similar intermeshing material.

18. The adhesive tape of claim 12, wherein said separable connector layer and
30 surface comprise a layer of a contact responsive material, and said cooperating separable connector layer and surface comprise a material providing a target surface for said contact responsive material.

19. The adhesive tape of claim 9, wherein the adhesive surfaces over at least portions of the first and second major surfaces of said first and second backing layers are provided by adhesive layers that cover at least portions of the first and second major surfaces of said first and second backing layers, and said first and second backing layers comprise polymeric material.

20. The adhesive tape of claim 9, wherein the adhesive surfaces over at least portions of the first and second major surfaces of said first and second backing layers and said first and second backing layers themselves are provided by a solid adhesive layers.

21. In combination, a first object, a second object, and an adhesive tape bonding said first and second objects to one another, said tape comprising a stretchable first backing layer having first and second major surfaces and first and second ends, an adhesive surface over at least a portion of said first major surface of said first backing layer bonded to a surface of said first object, and a separable connector surface covering at least a portion of said second major surface of said first backing layer, wherein said first backing layer and said adhesive surface are stretchable together to effect progressive debonding of the adhesive surface from said first object by the application of a force to the first end of the first backing layer in a direction of extension of the first backing layer between its first and second ends and said separable connector surface possesses the ability to be connected, disconnected and reconnected to a cooperating connection surface without destruction of the separable connection surface and the adhesive tape.

22. The adhesive tape of claim 21, further comprising a second adhesive surface over at least a portion of the second major surface of said first backing layer.

23. The adhesive tape of claim 22, wherein said second adhesive surface of the second major surface of said first backing layer comprises a low-tack adhesive, and

said separable connector surface comprises a surface of the low-tack adhesive that is reusably bonded to a surface of said second object.

24. The adhesive tape of claim 22, wherein the second adhesive surface is
5 bonded to a separable connector layer, and said separable connector surface is provided as a surface of said separable connector layer.

25. The adhesive tape of claim 24, wherein said separable connector layer and surface comprise a strip of magnetic material that is connected to a magnetically
10 attractive surface of said second object.

26. The adhesive tape of claim 24, wherein said separable connector layer and surface comprise a layer of an interlocking connector material.

27. The adhesive tape of claim 24, wherein said separable connector layer and surface comprise a layer of an intermeshing material.
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28. The adhesive tape of claim 24, wherein said separable connector layer and surface comprise a layer of a contact responsive material and said cooperating
20 separable connector layer and surface of said second object comprise a material providing a target surface for said contact responsive material.

29. The adhesive tape of claim 24, further comprising a stretchable second backing layer having first and second major surfaces and first and second ends, an
25 adhesive surface over at least a portion of said first major surface of said second backing layer bonded to a surface of said second object, and a cooperating separable connector surface covering at least a portion of said second major surface of said second backing layer, wherein said second backing layer and its adhesive surface are stretchable together to effect progressive debonding of the adhesive
30 surface from said second object by the application of a force to the first end of the second backing layer in a direction of extension of the second backing layer

between its first and second ends and said cooperating separable connector surface possesses the ability to be connected, disconnected and reconnected to said connection surface of said first backing layer without destruction of the separable connection surface, the cooperating connection surface and the adhesive tape.

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30. The adhesive tape of claim 29, further comprising a second adhesive surface over the second major surface of said second backing layer.

10 31. The adhesive tape of claim 30, wherein said second adhesive surface of the second major surface of the second backing layer comprises a low-tack adhesive, and said cooperating separable connector surface comprises a surface of the low-tack adhesive that can reusably adhere to said separable connector surface of said first backing layer.

15 32. The adhesive tape of claim 30, wherein the second adhesive surface of the second major surface of the second backing layer is bonded to a cooperating separable connector layer, and said cooperating separable connector surface is provided as a surface of said cooperating separable connector layer.

20 33. The adhesive tape of claim 32, wherein said separable connector layer and surface comprise a strip of magnetic material, and said cooperating separable connector layer and surface comprise a strip of magnetic material.

25 34. The adhesive tape of claim 32, wherein said separable connector layer and surface comprise a strip of magnetic material, and said cooperating separable connector layer and surface comprise a layer of magnetically attractive material.

30 35. The adhesive tape of claim 32, wherein said separable connector layer and surface comprise a layer of an interlocking connector material, and said cooperating separable connector layer and surface comprise interlocking connector material.

36. The adhesive tape of claim 32, wherein said interlocking connector material comprises hook and loop connector means.

37. The adhesive tape of claim 32, wherein said separable connector layer and surface comprise a layer of an intermeshing material, and said cooperating separable connector layer and surface comprise similar intermeshing material.

38. The adhesive tape of claim 32, wherein said separable connector layer and surface comprise a layer of a contact responsive material, and said cooperating separable connector layer and surface comprise a material providing a target surface for said contact responsive material.

39. The adhesive tape of claim 32, wherein the adhesive surfaces over at least portions of the first and second major surfaces of said first and second backing layers are provided by adhesive layers that cover at least portions of the first and second major surfaces of said first and second backing layers, and said first and second backing layers comprise polymeric material.

40. The adhesive tape of claim 32, wherein the adhesive surfaces over at least portions of the first and second major surfaces of said first and second backing layers and said first and second backing layers themselves are provided by a solid adhesive layers.

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